Remarks/Arguments:

The above Amendments and these Remarks are in reply to the Office Action mailed February 23, 2006.

Claims 1-41 were pending in the Application prior to the outstanding Office Action. In the Office Action, the Examiner rejected claims 1-41.

Claims 1, 5, 14, 19-21 are rejected under 35 U.S.C. § 112, second paragraph as being indefinite for failing to particularly point out an distinctly claim the subject matter which Applicant regards as the invention.

Claim 1 and the other claims are believed to be clear when viewed with respect to the specification. In particular, the "information relating to a change" and the "delta" are not the same thing. For example, "information related to a change" can be a packet with the current version number. It need not contain enough information for the slave server to do an update.

Claim 14 is rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. The applicant respectfully traverses this rejection.

Claim 14 concerns a computer network. It is quite feasible that a slave server misses a previous change sent from the master server. For example, if a specific slave server is down, or isolated from the master server, when the change is sent out, then the specific slave server can miss the previous change.

Claims 1-41 rejected under 35 U.S.C. § 102(b) as being anticipated by Van Ryzin, U.S. Patent No. 5,509,689. The Applicants respectfully traverse this rejection.

Van Ryzin does not concern master/slave server in which changes can be missed. Van Ryzin concerns a distributed software management system where any file can be updated by different users.

Claims 1 and 5 reads as follows:

1.   A method for replicating data from a master server to a slave server over a network, the method comprising the steps of:
        sending a packet of information from the master server to the slave server, the information relating to a change in the data stored on the master server and containing a version number for the present state of the data;
        allowing the slave server to determine whether the data on the slave server has been updated to correspond to the version number contained in the packet; and

requesting a delta be sent from the master server to the slave server if the data on the slave server does not correspond to the version number contained in the packet, the delta containing information needed to update the slave server.

5.   A method for replicating data from a master server to a slave server over a network, the method comprising the steps of:

sending a version number from the master server to the slave server, the version number relating to the present state of the data stored on the master server;

allowing the slave server to determine whether the slave server has been updated to reflect the present state of the data corresponding to the version number sent from the master server; and

requesting a delta be sent from the master server to the slave server if the slave server does not correspond to the version number sent by the master, the delta containing information needed to update the slave server.

Claim 1 and 5 includes requesting <u>a delta be sent from the master server to the slave server if the data on the salve server does not correspond to the version number.</u> This is not shown, suggested, or given a motivation for in the Van Ryzin reference. In Van Ryzin, entire files are apparently sent to a network computer rather than deltas. Differences between files are displayed by the system of Van Ryzin, but these differences are apparently constructed at the users' computers. Claims 2-4 and 6-13 are also believed to be allowable because they are dependent on the independent claims and because of the additional limitations of these claims.

Claims 14 reads as follows:

14.   A method for replicating data over a network including a master server and at least one slave server, the method comprising the steps of:

sending a packet of information from a master server to each slave server on the network, the information relating to a change in the data stored on the master server and containing a current version number for the present state of the data, the information further relating to previous changes in the data and a version number for each previous change;

allowing each slave server to determine whether the slave server has been updated to correspond to the current version number;

allowing each slave server to commit the information if the slave server has not missed a previous change; and

allowing each slave server having missed a previous change to request that previous change be sent from the master server to the slave server before the slave server commits the packet of information.

Van Ryzin does not include allowing each slave server having missed a previous change to request that previous change be sent from the master server to the slave server before the slave server commits the packet of information. No previous change is requested in Van Ryzin.

Claims 15-18 are also believed to be allowable.

Claim 19 reads as follows:

> 19. A method for replicating data over a network including a master server and at least one slave server, the method comprising the steps of:
> sending a packet of information from a master server to each slave server on the network, the information relating to a change in the data stored on the master server and containing a prior version number for the prior state and a new version number for the new state of the data, the information further relating to previous changes in the data and a previous version number for each previous change;
> allowing each slave server to determine whether the data on the slave server corresponds to the prior version number contained in the packet;
> allowing each slave server to commit the packet of information if the data on the slave server corresponds to the prior version number contained in the packet, the commit also updating the version of the slave server to the new version number; and
> allowing each slave server not corresponding to the prior version number to request that a delta be sent from the master server containing the information necessary to update the slave to the prior version number before the slave server commits the packet of information.

Claim 19 includes a step of allowing each slave server not corresponding to the prior version number to request that a delta be sent from the master server containing the information necessary to update the slave server slave to the prior version number before the slave server commits the packet of information. Such a step is not shown, suggested or given a motivation for in the Van Ryzin reference. Van Ryzin doesn't have slave server request a delta. For this reason, claim 19 is believed to be allowable.

Claim 20 reads as follows:

> 20. A method for replicating data over a network including a master server and at least one slave server, the method comprising the steps of:
> sending a packet of information from a master server to each slave server on the network, the information relating to a change in the data stored on the master server and containing a version number for the prior state and a version number for the new state of the data, the information further relating to previous changes in the data and a version number for each previous change;
> allowing each slave server to determine whether the data on the slave server corresponds to the prior version number contained in the packet;

allowing each slave server to commit the packet of information if the data on the slave server corresponds to the prior version number contained in the packet, the commit also updating the version of the slave server to the new version number; and

allowing each slave server not corresponding to the prior version number to request that a delta be sent from the master server containing the information necessary to update the slave to the new version number.

Claim 20 includes allowing each slave server not corresponding to the prior version number to request that a delta be sent from the master server containing the information necessary to update the slave to the new version number. Such a step is not shown, suggested or given a motivation for in the Van Ryzin reference. Van Ryzin doesn't have slave server request a delta. For this reason, claim 20 is believed to be allowable.

Claim 21 reads as follows:

21.   A method for replicating data from a master server to at least one slave server over a network, the method comprising the steps of:

sending a packet of information from the master server to a slave server, the information relating to a change in the data stored on the master server and containing a version number for the present state of the data;

receiving the packet of information to a slave server;

allowing the slave server to determine whether the slave server has been updated to correspond to the version number contained in the packet, and to further determine whether the slave server can process the packet of information if needed to update to correspond to the version number contained in the packet;

sending a signal from the slave server to the master server, the signal indicating whether the slave server needs to be updated and whether the slave server can process the update; and

sending a response signal from the master server to the slave server indicating whether the slave server should commit to the information contained in the packet; and

committing the packet of information to the slave server if so indicated by the response signal.

Claim 21 includes allowing the slave server to determine whether the slave server has been updated to correspond to the version number contained in the packet sent from the master server to the slave server and further determine whether the slave server can process the packet of information if needed to update to correspond to the version number contained in the packet. Such a step is not shown, suggested or given a motivation for in the Van Ryzin reference.

For this reason, claim 21 is believed to be allowable. Claims 22-30 are dependent upon claim 21 and for that reason, and because of the additional limitations of these claims, these claims are believed to be allowable.

Claim 31 reads as follows:

31. A method for replicating data over a network, the method comprising the steps of:

(a) determining whether the replication should be accomplished in a one or two phase method;

(b) sending replication information determined to he accomplished in a one phase method by:

sending a packet of information from the master server to the slave server, the information relating to a change in the data stored on the master server and containing a version number for the present state of the data;

receiving the packet of information to a slave server;

allowing the slave server to determine whether the data on the slave server has been updated to correspond to the version number; and

requesting a delta be sent from the master server to the slave server if the slave server does not correspond to the version number, the delta containing information needed to update the slave server;

(c) sending replication information determined to he accomplished in a two phase method by:

sending a packet of information from the master server to the slave server, the information relating to a change in the data stored on the master server and containing a version number for the present state of the data;

allowing the slave server to determine whether the slave server has been updated to correspond to the version number, and to further determine whether the slave server can process the packet of information;

sending a signal from the slave server to the master server indicating whether the slave server needs to be updated and whether the slave server can process the packet of information;

sending a response signal from the master server to the slave server indicating whether the slave server should commit to the packet of information; and

committing the packet of information to the slave server if so indicated by the response signal.

Claim 31 includes allowing the slave server to determine whether the slave server has been updated to correspond to the version number and further determined whether the slave server can process the packet of information. Such a step is not shown, suggested or given a motivation for in the cited Van Ryzin reference.

Claim 31 also includes sending a signal from the slave server to the master server indicating whether the slave server needs to be updated and whether the slaver server can process the packet of information. Such a step in not shown, suggested or given a motivation for in the Saether reference.

Claim 31 further describes a response signal sent in response to the signal from the slave server. Such a response signal is not shown, suggested or given motivation for in the Van Ryzin reference.

For the above discussed reasons, claim 31 is believed to be allowable.

Claim 32 reads as follows:

32.   A method for replicating data over a network, the method comprising the steps of:
        (a) determining whether replication should be accomplished in a one or two phase method;
        (b) sending data to be replicated in a one phase method by:
        sending a version number for the current state of the data from a master server to a slave server;
        requesting a delta be sent from the master server to the slave server if the data on the slave server does not correspond to the version number; and
        (c) sending data to be replicated in a two phase method by:
        sending a packet of information from the master server to a slave server;
        determining whether the slave server can process the packet of information; and
        committing the packet of information to the slave server if the slave server can process the packet of information.

Claim 32 includes a step of requesting a delta be sent from the master server to the slave server if the data on the slave server does not correspond to the version number. As discussed above, such a step is not shown or suggested in the cited references. For this reason, claim 32 is believed to be allowable.

Claim 33 reads as follows:

33.   A method for replicating data from a master to a plurality of slaves on a network, the method comprising the steps of:
        (a) determining whether replication should be accomplished in a one or two phase method;
        (b) sending data to be replicated in a one phase method by:
        sending a version number for the current state of the data from the master to each slave; and
        requesting a delta be sent from the master to each slave containing data that does not correspond to the version number;

(c) sending data to be replicated in a two phase method by:
sending a packet of information from the master to each slave; and
committing the packet of information to the slaves if each of the plurality
of slaves can process the packet of information.

Claim 33 includes determining whether replication should be accomplished in a one or two phase method. Van Ryzin does not describe any two phase method. In the two phase method of claim 33, if the two phase method is to be done, a packet of information sent from the master server to the slave server and the packet of information to the slave is committed if <u>each of the plurality of the slaves</u> can process the packet of information. For this reason, claim 33 is believed to be allowable.

Claim 34 reads as follows:

34.   A method for replicating data from a master to a plurality of slaves on a network using one and two phase methods, the method comprising the steps of:
(a) sending data to be replicated in a one phase method by sending a version number for the current state of the data from the master to each slave so that each slave may request a delta to be sent from the master to the slave to update the data on the slave; and
(b) sending data to be replicated in a two phase method by sending a packet of information from the master to each slave, the packet of information to be committed by each slave if every slave is able to commit the packet of information.

Claim 34 also includes a two phase method step in which a packet of information from the master server is sent to each slave, the packet of information to be committed by each slave <u>if every slave is able to commit the packet of information</u>. Such a step is not shown, suggested or given a motivation for in the Van Ryzin reference. For this reason claim 34 is believed to be allowable.

Claim 35 reads as follows:

35.   A method for replicating data on a clustered network using one and two phase methods, each network cluster containing a cluster master and at least one cluster slave, the method comprising the steps of:
(a) sending data to be replicated in a one phase method by sending a version number for the current state of the data from a first cluster master to all other cluster masters so the other cluster masters may each request a delta; and
(b) sending data to be replicated in a two phase method by sending a packet of information from the first cluster master to each other cluster master, the packet of information to be committed by the other cluster masters if the other cluster masters are able to commit the packet of information.

Claim 35 contains a two phase method step of sending a packet of information from the first cluster master to each other cluster master, the packet of information to be committed by the other cluster masters if the other cluster masters are able to commit the packet of information. Such a two phase step method is not shown, suggested or given a motivation for in the Van Ryzin reference.

For this reason claim 35 is believed to be allowable. Claims 36-37 are dependent upon claim 35 and for that reason because of the additional limitations of these claims, these claims are believed to be allowable.

Claims 38 reads as follows:

> 38. A computer-readable medium, comprising:
> (a) means for sending a packet of information from a master server to each slave server on the network, the information relating to a change in the data stored on the master server and containing a current version number for the present state of the data, the information further relating to previous changes in the data and a version number for each previous change;
> (b) means for allowing each slave server to determine whether the slave server has been updated to correspond to the current version number;
> (c) means for allowing each slave server to commit the information if the slave server has not missed a previous change; and
> (d) means for allowing each slave server having missed a previous change to request that previous change be sent from the master server to the slave server before the slave server commits the packet of information.

Claim 38 includes means for allowing each slave server having missed a previous change to request a previous change be sent from a master server to a slave server before the slave server commits the packet of information. Such a step is not shown, suggested or given a motivation for in the Van Ryzin reference.

Claim 39 reads as follows:

> 39. A computer program product for execution by a server computer for replicating data over a network, comprising:
> (a) computer code for sending a packet of information from a master server to each slave server on the network, the information relating to a change in the data stored on the master server and containing a current version number for the present state of the data, the information further relating to previous changes in the data and a version number for each previous change;
> (b) computer code for allowing each slave server to determine whether the slave server has been updated to correspond to the current version number;

(c) computer code for allowing each slave server to commit the information if the slave server has not missed a previous change; and

(d) computer code for allowing each slave server having missed a previous change to request that previous change be sent from the master server to the slave server before the slave server commits the packet of information.

Claim 39 includes computer code for allowing each slave server having missed a previous change to request the previous change be sent from the master server to the slave server before the slave server commits a packet of information. Such computer code is not shown, suggested or given a motivation for in the Van Ryzin reference. For this reason, claim 39 is believed to be allowable.

Claim 40 reads as follows:

40. A system for replicating data over a network, comprising:
(a) means for sending a packet of information from a master server to each slave server on the network, the information relating to a change in the data stored on the master server and containing a current version number for the present state of the data, the information further relating to previous changes in the data and a version number for each previous change;
(b) means for allowing each slave server to determine whether the slave server has been updated to correspond to the current version number;
(c) means for allowing each slave server to commit the information if the slave server has not missed a previous change; and
(d) means for allowing each slave server having missed a previous change to request that previous change be sent from the master server to the slave server before the slave server commits the packet of information.

Claim 40 includes means for allowing each slave server having missed the previous change to request that the previous change be sent from the master server to the slaver server before the slave server commits the packet of information. Such a step is not shown, suggested or given a motivation for in the Van Ryzin reference. For this reason, claim 40 is believed to be allowable.

Claim 41 reads as follows:

41. A computer system comprising:
a processor;
object code executed by said processor, said object code configured to:
(a) send a packet of information from a master server to each slave server on the network, the information relating to a change in the data stored on the master server and containing a current version number for the present state of the

data, the information further relating to previous changes in the data and a version number for each previous change;

(b) allow each slave server to determine whether the slave server has been updated to correspond to the current version number;

(c) allow each slave server to commit the information if the slave server has not missed a previous change; and

(d) allow each slave server having missed a previous change to request that previous change be sent from the master server to the slave server before the slave server commits the packet of information.
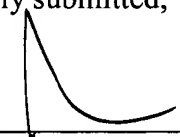
Claim 41 includes a processor executing an object code which allows each slave server having missed the previous change to request that the previous change be sent from the master server to the slave server before the slave server commits the packet of information. Such a step is not shown, suggested or given motivation for in the Van Ryzin reference. For this reason, claim 41 is believed to be allowable.

In light of the above, it is respectfully submitted that all of the claims now pending in the subject patent application should be allowable, and a Notice of Allowance is requested. The Examiner is respectfully requested to telephone the undersigned if they can assist in any way in expediting issuance of a patent.

The Commissioner is authorized to charge any underpayment or credit any overpayment to Deposit Account No. 06-1325 for any matter in connection with this response, including any fee for extension of time, which may be required.

Respectfully submitted,

Date: __May 23, 2006__   By: _____

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